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6678/6U8-A MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

9-PIN MINIATURE TYPE

For use in mobile communications equipment

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage. 6.3 $\pm$ 20%* ac or dc volts

Current at 6.3 volts 0.45 amp

Direct Interelectrode Capacitances:

	Without External Shield	With External Shield ^o	
Triode Unit:			
Grid to plate.	1.8	1.8	$\mu\mu\text{f}$
Grid to cathode and heater	2.5	2.5	$\mu\mu\text{f}$
Plate to cathode and heater	0.4	1	$\mu\mu\text{f}$
Pentode Unit:			
Grid No.1 to plate	0.01 max.	0.006 max.	$\mu\mu\text{f}$
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater	5	5	$\mu\mu\text{f}$
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater. .	2.6	3.5	$\mu\mu\text{f}$
Heater to cathode (Each unit).	3	3*	$\mu\mu\text{f}$

Characteristics, Class A₁ Amplifier:

With heater voltage of 6.3 volts

	Triode Unit	Pentode Unit	
Plate Supply Voltage.	150	250	volts
Grid-No.2 (Screen-grid) Supply Voltage.	—	110	volts
Cathode Resistor.	56	68	ohms
Amplification Factor.	40	—	
Plate Resistance (Approx.). .	5000	400000	ohms
Transconductance.	8500	5200	μmhos
Plate Current	18	10	ma
Grid-No.2 Current	—	3.5	ma
Grid-No.1 Voltage (Approx.) for plate μa = 10	-12	-10	volts

Mechanical:

Operating Position.	Any
Maximum Overall Length.	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip). .	1-9/16" $\pm$ 3/32"
Diameter.	0.750" to 0.875"

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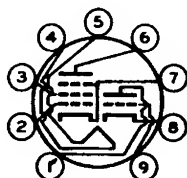


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Dimensional Outline. See General Section
 Bulb T6-1/2
 Base Small-Button Noval 9-Pin (JEDEC No. E9-1)
 Basing Designation for BOTTOM VIEW 9AE

Pin 1—Triode Plate
 Pin 2—Pentode
 Grid No. 1
 Pin 3—Pentode
 Grid No. 2
 Pin 4—Heater
 Pin 5—Heater
 Pin 6—Pentode Plate



Pin 7—Pentode
 Cathode,
 Pentode
 Grid No. 3,
 Internal
 Shield
 Pin 8—Triode Cathode
 Pin 9—Triode Grid

CONVERTER SERVICE

Maximum Ratings, Design-Maximum Values:

	Triode Unit as Osc.	Pentode Unit as Mixer	
PLATE VOLTAGE.	330 max.	330 max.	volts
GRID-No. 2 (SCREEN-GRID) SUPPLY VOLTAGE.	-	330 max.	volts
GRID-No. 2 VOLTAGE.	-	See Grid-No. 2 Input	

Rating Chart at front of Receiving Tube Section

GRID-No. 1 (CONTROL-GRID) VOLTAGE:			
Positive-bias value. . . .	0 max.	0 max.	volts
GRID-No. 2 INPUT:			
For grid-No. 2 voltages up to 165 volts.	-	0.55 max.	watt
For grid-No. 2 voltages be- tween 165 and 330 volts. -	-	See Grid-No. 2 Input	

Rating Chart at front of Receiving Tube Section

PLATE DISSIPATION.	3 max.	3 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode. . . .	200 max.	200 max.	volts
Heater positive with respect to cathode. . . .	200 [▲] max.	200 [▲] max.	volts

* When the heater is operated from storage-battery-with-charger supply or similar supplies, the normal battery-voltage fluctuation may be as much as 35 per cent or more. Although such variation in heater voltage is permissible for short periods, reliability can be increased with improved supply-voltage regulation.

° With external shield JEDEC No. 316 connected to cathode of unit under test except as noted.

● With external shield JEDEC No. 315 connected to ground.

▲ The dc component must not exceed 100 volts.



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SPECIAL RATINGS & PERFORMANCE DATA

Heater-Cycling Life Performance:

This test is performed on a sample lot of tubes from each production run. A minimum of 2000 cycles of intermittent operation is applied under the following conditions: heater volts = 7.5 cycled one minute on and one minute off, heater 135 volts positive with respect to cathode, and all other elements connected to ground. At the end of this test, tubes are checked for heater-cathode shorts and open circuits.

Transconductance at Reduced Heater Voltage:

Triode Unit:

Average value. 6800 μ mhos
With heater volts = 5, plate supply volts = 150, and
cathode resistor (ohms) bypassed = 56.

Pentode Unit:

Average value. 4100 μ mhos
With heater volts = 5, plate supply volts = 250, grid-No.
2 supply volts = 110, and cathode resistor (ohms) bypassed
= 68.